# Internal Combustion Engines

## Outline of Instruction

### Course Information

<table>
<thead>
<tr>
<th>Organization</th>
<th>Monroe County Community College, Applied Science and Engineering Technology</th>
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<tbody>
<tr>
<td>Development Date</td>
<td>10/27/2006</td>
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<tr>
<td>Course Number</td>
<td>AUTO 101</td>
</tr>
<tr>
<td>Potential Hours of Instruction</td>
<td>6</td>
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<tr>
<td>Total Credits</td>
<td>4</td>
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### Description

This course covers the operating principles and design considerations of internal combustion engines typically encountered in the transportation field. Included will be two and four stroke - cycle gasoline and diesel engines, Wankel and gas turbine engines. Emphasis will be on four stroke-cycle gasoline engines.

**Major units:**

- Operating principles of internal combustion engines
- Measurements of engine performance
- Cylinder head components, operation and service
- Camshafts and related components
- Operation and service of lower engine components
- Operation of cooling system
- Operation of lubrication system
- Engine performance diagnosis

### Textbooks


### Learner Supplies

Calculator.

### Prerequisites

None

### Exit Learning Outcomes

#### General Education Outcomes

A. Apply mathematical approaches to the interpretation of numerical information
B. Use computer technology to communicate information
C. Apply mathematical approaches to the analysis of numerical information
D. Communicate ideas in writing using the rules of standard American English
Course Outcomes

1. Analyze principles of internal combustion engines
2. Analyze engine torque, power and efficiency
3. Analyze blocks and related components
4. Service valves and valve seats
5. Compute and piston timing, displacement, velocity and acceleration
6. Measure airflow through a cylinder head
7. Determine time is seconds for various engine functions
8. Prepare reports in an engineering format
9. Practice shop safety